

Two new species of *Semiopyla* with notes on
S. cataphracta
(Araneae, Salticidae)

by

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With 23 figures

ABSTRACT

Some additions to the knowledge of *Semiopyla cataphracta* are given: the embolus is accompanied by a wide pars pendula and there are one dorsal and four ventral abdominal scuta. A population of *S. cataphracta* has been found in the Central mountains of R. Argentina. It shows small morphological differences with the tropical population of Venezuela and Panama. Some biological information is given.

Semiopyla viperina n. sp. from Paraguay and Argentina and *S. triarmata* n. sp. from Argentina are described. They differ from *S. cataphracta* by the shape and location of the three palpal tibial apophysis and by the presence of specialized setae on first legs of the males.

Semiopyla Simon, 1901 is a very distinctive genus that can be recognized by the combined presence of the following characters: fourth pair of legs much longer than third pair; chelicerae with 4-5 promarginal teeth, with neither retromargin nor retromarginal tooth; three apophysis on palpal tibia and embolus with wide pars pendula.

Redescriptions of *Semiopyla cataphracta* Simon, 1901, type species of the genus, have been published by GALIANO (1963) and CUTLER (1971). The recent examination of many specimens from Panama has shown that in both previous papers the wide pars pendula of the embolus has been omitted. Besides, the tip of the embolus has been erroneously described as bifid (CUTLER 1971: 142). It seems worthwhile to give illustrations of the palp of *S. cataphracta*, adding some other data to the knowledge of the species.

Two new species, *S. viperina* and *S. triarmata* are described. They are very similar but can be distinguished by small differences in the genitalic structures. Males of *S. viperina*

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and *S. triarmata* differ from those of *S. cataphracta* by the presence of long erect setae on the ventral surface of first legs.

I thank Dr. Volker Mahnert who transmitted to me the Salticidae spiders collected by the members of the Muséum d'Histoire Naturelle de Genève during their expeditions to Paraguay as a part of the "Proyecto del Inventario Biológico Nacional" supported by the Swiss Technical Cooperation (COSUDE) and the Ministerio de Agricultura y Ganadería del Paraguay¹. I thank also Dr. H. W. Levi of the Museum of Comparative Zoology for the loan of the Panamanian specimens.

The format of the descriptions follows GALIANO (1963); the leg spination is described as in PLATNICK & SHADAB (1975) with small changes; all the measurements are given in millimeters.

Abbreviations: AME: anterior median eyes; ALE: anterior lateral eyes; PME: posterior median eyes; PLE: posterior lateral eyes. p: prolateral; v: ventral; r: retrolateral; d: dorsal; ap: apical. MHNG: Muséum d'Histoire Naturelle de Genève, Switzerland; MACN: Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", R. Argentina; MCZ: Museum of Comparative Zoology, Harvard, USA; MNHNP: Muséum National d'Histoire Naturelle, Paris, France.

Semiopyla cataphracta Simon, 1901

(Figs. 1-5, 20)

Semiopyla cataphracta Simon, 1901: 573, 575, 577, figs. 692-694 (Male Lectotypus from Venezuela, Caracas, E. Simon coll. in MNHNP, examined). PETRUNKEVITCH 1911: 705; 1928: 205. ROEWER 1954: 1240. BONNET 1958: 4025. GALIANO 1963: 443, pl. 34, figs. 8-12. CUTLER 1971: 144, figs. 1-6 (= *S. biimpressa*).

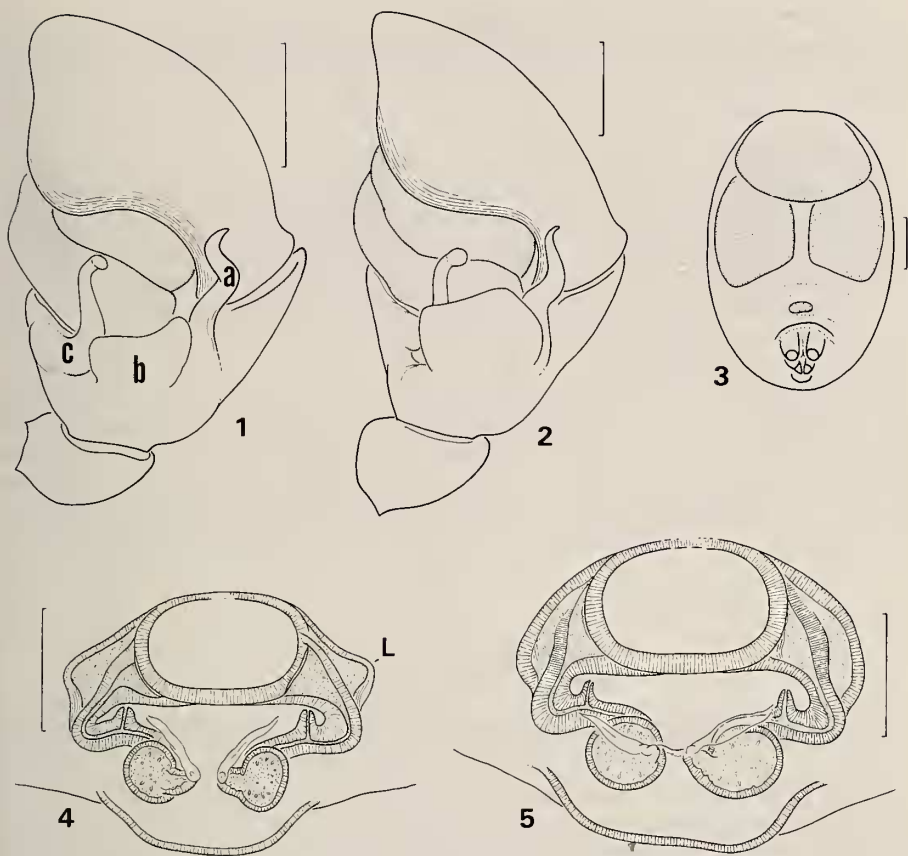
Semiopyla biimpressa Simon, 1901: 574, 575 (Female Lectotypus from Venezuela, Valencia, San Esteban, E. Simon coll. in MNHNP, examined). PETRUNKEVITCH 1911: 705. ROEWER 1954: 1240. BONNET 1958: 4025. GALIANO 1963: 442, pl. 34, fig. 6.

The palp has three tibial apophysis (Figs. 1, 2: *a*, *b*, *c*). Apophysis *a* is loose helical and sclerotized; apophysis *b* is cuadrangular, fleshy and longitudinally striated; apophysis *c* has a wide laminar base bearing at the posterior angle a curved apophysis distally dilated in a small head. The embolus has a wide, translucent pars pendula. Males have several opistosomatic scuta: one that covers the entire dorsum, another one on the epigastric area; a postepigastric pair and a small one on the ventral apex (Fig. 3). All the males from Panama (17 specimens) have 1r-2-2 spines on tibia I, while in previous descriptions it was said that the lectotype has 2-2-2.

In the Central mountains of Argentina, I collected several specimens that differ from those from Panama and Venezuela in the following characters:

a) Argentinian specimens are blackish; males dorsally covered by red-ochre hairs, except for three longitudinal white bands on opistosoma. First legs black, other pairs translucent.

¹ Autumn 1979, participants: F. Baud, C. Dlouhy, V. Manhart, J.-L. Perret, Cl. Vaucher. Autumn 1982, participants: F. Baud, M.-C. Durette-Desset, C. Dlouhy, V. Manhart, J.-L. Perret, Cl. and P. Vaucher.



FIGS. 1-5.

Semiopyla cataphracta; 1: specimen from Panama, palp, retrolateral view (*a*, *b*, *c*, tibial apophysis); 2: specimen from Argentina, palp, retrolateral view; 3: opisthosoma, ventral scuta; 4: specimen from Venezuela, epigynum (L: lobe); 5: specimen from Argentina, epigynum. Scale lines: 100 μ .

b) Total length of Argentinian specimens somewhat bigger than that of the Panamanian ones. The comparison of females from both localities with the same prosoma length, shows that the Argentinian specimens have relatively larger epigynal plate (Fig. 5). Epigynal ducts of Panamanian specimens have a small anterior lobe (Fig. 4, L).

c) Argentinian specimens have apophysis *b* bigger, covering the basal part of apophysis *a* and *c* (Fig. 2).

d) Argentinian specimens have been taken in November, in the Central mountains of Córdoba and San Luis Provinces, where the vegetation is xerophytic, a mixture of "chaco", "monte" and "espinal" (CABRERA & WILLINK, 1973). The spiders were found on the slopes of the hills, walking over the stones or under them. According to CUTLER (1971: 145) *S. cataphracta* exists "in any lowland tropical area from Venezuela to southern Mexico". The specimens from Venezuela have been collected in dead leaves in the forest.

e) Nothing is known about the biology of *S. cataphracta* in the tropics. The Argentinian females build their retreats under the stones. They are white silken tubes where the female is enclosed with the cocoon. Each cocoon has 6 to 8 pink, oval eggs of 0.68×0.80 mm.

All the morphological differences mentioned above are evident when specimens from both localities are placed side by side but they are difficult to observe in isolated individuals. The great distance between the distributional areas of these two populations and the diversity of the habitats may account for considering them as two species. On the other hand, if more specimens were found in the intermediate region, the observed differences might be interpreted as those present in widely separated populations of a single species with a large range. For the time being I regard the Argentinian population as conspecific with the Central American one.

MATERIAL EXAMINED: 2 ♀ No. 5993, 5994 (MACN), Venezuela, Caracas, 23.5.1966, Gómez-Cova coll.; 8 ♂, 12 ♀ No. 7836 (MACN), Panama, Canal Zone, Balboa, 28.5.1964, Chickering coll.; 4 ♂, 2 ♀ No. 8029 (MACN), R. Argentina, Córdoba Prov., Cura Brochero, 20.11.1983, Galiano coll.; 1 ♂, 1 ♀ No. 8030 (MACN), R. Argentina, San Luis Prov., Merlo, 18.10.1983, Galiano coll.; 6 ♂, 20 ♀ (MCZ), Panama, Canal Zone, 28.5.1964, Chickering coll.; 3 ♂, 4 ♀ (MCZ), Panama, Canal Zone, 22.7.1950, Chickering coll.

Semiopyla viperina n. sp.

(Figs. 6-8, 10, 11, 14-16, 21-23)

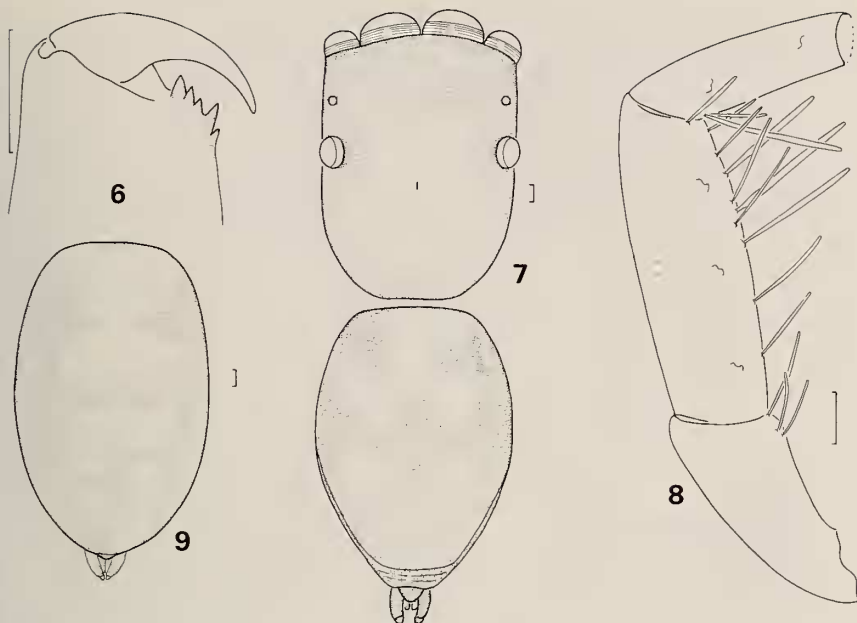
ETYMOLOGY: from the latin *viperinus* referring to the snake shape of the palpal tibial apophysis *c*.

DIAGNOSIS. Males of *S. viperina* can be distinguished from those of *S. cataphracta* by the presence of long erect setae on first legs and by the shape and location of the three palpal apophysis, the apophysis *b* instead of being medially situated is shifted anteriorly. Females of *S. viperina* have a horseshoe-shaped groove on the epigynal plate instead of the oval hole of *S. cataphracta*.

DESCRIPTION. MALE HOLOTYPE. Total length 2.70. Prosoma 1.36 long, 0.97 wide, 0.60 high. Clypeus 0.03 high, with few bristles. Ocular quadrangle: 0.65 long; first row 0.97 wide, third row 0.91 wide. Eye interdistances: ALE-PME 0.16, PME-PLE 0.11. Diameter of AME 0.33. Anterior end of thoracic groove scarcely behind the PLE. Chelicerae: Short, parallel, vertical; promargin with five teeth, the more medial the smaller; without retro-marginal tooth (Fig. 6). Outer angle of endites rounded. Leg formula: IV-I-III-II.

Leg spination: Femora I, II d 1-1-1, p 1; III, IV d 1-1-1, p 1, r 1. Patellae III p 1, r 1; IV r 1. Tibiae I v 2-2-2; II v 1r-1r-2, p 1; III v ap 2, p 1, r 1; IV v 1p-2, p 1-1-1, r 1-1-1. Metatarsi I v 2-2; II v 2-2, p ap 1; III left v ap 2, p 1-2, r 1-2; right v ap 2, p ap 2, r ap 2;

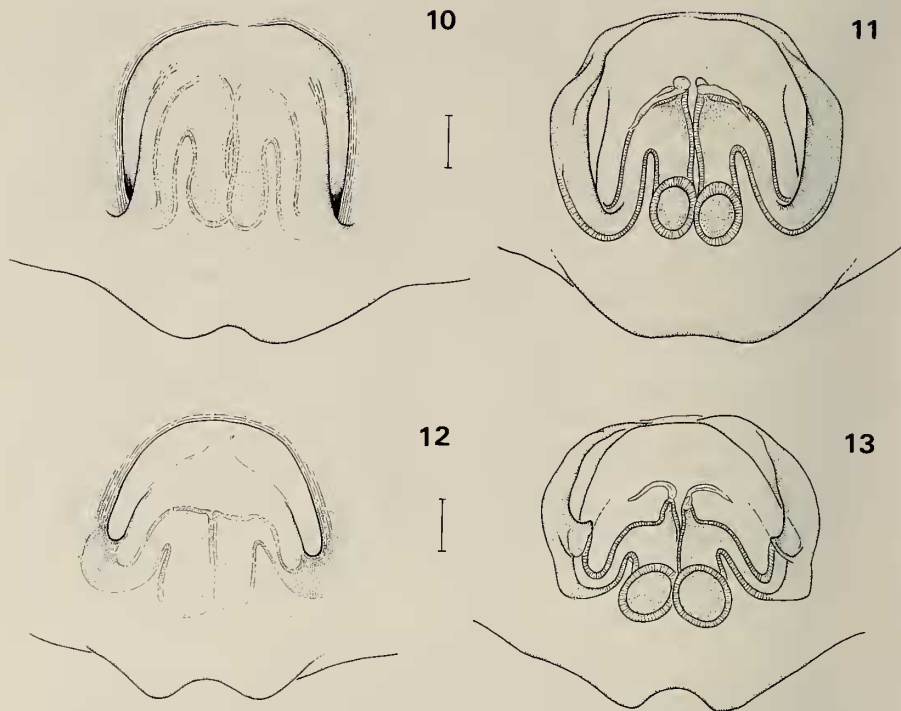
Legs	Femora	Tibiae	Patellae	Metatarsi	Tarsi	Totals
I	0.75	0.43	0.55	0.40	0.26	2.40
II	0.70	0.41	0.38	0.35	0.26	2.11
III	0.63	0.35	0.40	0.43	0.26	2.08
IV	0.88	0.38	0.63	0.66	0.35	2.91



FIGS. 6-9.

Semiopyla viperina n. sp. 6-8, male; 6: chelicera, posterior view; 7: body, dorsal view; 8: first leg, prolateral view showing location of specialized setae (spines suppressed). *S. triarmata* n. sp.; 9: opistosoma of the female, dorsal view. Scale lines 100 μ .

IV v ap 2, p 1-1-2, r 1-1-2. Spines on tibiae and metatarsi I and II strong and very long. Specialized setae on first legs (Figs. 8, 22, 23): they are stiff, slightly clavated (both ends a little narrower than the middle), implanted in sockets similar to those of common hairs. The surface of the seta is covered by barbs with sharp distal points, except the tip which is bare, truncated, with a shallow concavity. The specific function of these setae is not known. They are placed on the ventral surface of the leg in the following way: 2-3 on patella; a longitudinal row (a little displaced to the retrolateral side) of 5-7 setae on tibia, of which the 5th or 6th are the longest, and a group of 2-4 setae on the distal part of the ventral tibia. Metatarsus with one long seta and 2-3 smaller ones. Palps (Figs. 14-16, 21): apophysis *a* basally wide, distally curved; apophysis *b* placed more anteriorly than apophysis *c*; apophysis *b* triangular, basally stout with some long hairs, distally flattened and translucent. Apophysis *c* sclerotized, very long, a little sinuous and cylindrical on basal half, widened and flattened distally. Pars pendula of embolus very wide. Colour in alcohol: Brown, with a longitudinal yellow band on thoracic slope; cephalic area and margins of prosoma, blackish. Opistosoma (Fig. 7) with some big yellow spots, dorsally covered by a shiny, orange-brown scutum. Sides and venter blackish, epigastric area sclerotized. Endites, labium, sternum, light brown. Chelicerae yellowish, anteriorly darkened. Coxae and trochanters yellow, femora brown, laterally blackish. First leg with patella, tibia and metatarsus brown, laterally darkened, tarsus yellow. Legs II and III yellowish, tibiae and



FIGS. 10-13.

Semiopyla viperina n. sp., epigynum; 10: ventral view; 11: dorsal view. *S. triarmata* n. sp., epigynum; 12: ventral view; 13: dorsal view. Scale lines 100 μ .

metatarsi darkest distally. Legs IV brown, distal halves of patellae and tibiae darkest. Palps brown, cymbium with dense yellowish white hairs distally.

FEMALE PARATYPUS. Total length 3.36. Prosoma 1.40 long, 1.35 wide, 0.63 high. Clypeus 0.05 high, with few bristles. Ocular quadrangle 0.70 long, first row 1.00 wide; third row 1.05 wide. Eye interdistances: ALE-PME 0.19, PME-PLE 0.11. Diameter of AME 0.33. Chelicerae and leg formula as in the male. Leg spination: Femora I, II, IV d 1-1-1; III d 1-1-1, p 1. Tibiae I v 2-2-2; II v 1r-1r-2, p 1; III v 1p-1p, p 1-1-1, r 1; IV v 1p-2, p 1-1-1, r 1-1-1. Metatarsi I, II v 2-2; III v ap 2, p ap 2, r ap 2; IV v 1p-2, p 1-1-2, r 1-1-2. Spines on femora I and II extremely thin, almost bristle-like. Epigynum (Figs. 10, 11): Big plate, posterior margin surpassing the epigastric furrow and with a median notch. A curved groove, shaped as a horseshoe, with the outer margin sclerotized; openings at the ends of the groove. Spermathecae parallel elongated, with the posterior end curved upward. Middle part of the ducts parallel to the spermathecae bodies. Colour: as in the male, but lighter. Opistosoma without scuta. Legs brown, femora blackish. Palps brown, darker on patellae and tibiae.

VARIATIONS. Paratypes: Total length, males from 2.66 to 2.83; females from 3.06 to 4.00. Spines, males, patellae III r 1; IV r 1. Tibiae III v 1p-2, p 1-1-1, r 1-1-1. Metatarsi III r 1-1-2. Females, tibiae II v 1p-2, p 1-1, r 1-1; III p 1, r 1. Metatarsi III p 1-2; IV p 1-2. The palpal apophysis *c* may have small variations in the shape of the distal half.

MATERIAL EXAMINED: Collected sifting soil litter, dead leaves and rotten woods in the forest. Male holotypus, 3 ♀, 2 immatures (MHNG) from Paraguay, Dto. Concepción, Arroyo Azotey (near Cororó) 10.10.1979; 2 ♀ paratypes (MHNG) Dto. Concepción, between Estancia Estrella and Estancia Primavera, 16.10.1979; 1 ♀ paratype (MHNG), Dto. Central, Colonia Thompson (20 km S. of Asunción) 10.11.1979; 1 ♀ paratype (MHNG) Dto. Misiones (30 km S. of San Juan Bautista, road to San Ignacio), Arroyo Aguaray, 14.10.1982; 1 ♂, 2 ♀ paratypes (MHNG), Dto. Neembucú (5 km NW of Pilar) near Paraguay River, 18.10.1982; 1 ♂, 3 ♀ paratypes (MHNG), same site, *Eucalyptus* plantation, 18.10.1982; 1 ♀ paratype (MHNG) Dto. Itapua, (10 km S. of Santa María) 25.10.1982; 1 ♂, 3 ♀ paratypes No. 8019 (MACN), Dto. Concepción, Estancia Viancho Postillón (about 5 km E. of Puerto Max) 19.10.1979; 1 ♀ paratype No. 8020 (MACN), Dto. Canendiyú, Estancia La Cordillera (about 8 km S. of Ipé Jhu) 28.10.1979; 1 ♂, 2 ♀ paratypes No. 8021 (MACN), Dto. Concepción, Arroyo Azotey (near Cororó) 9.10.1979; 1 ♂ paratype No. 8023 (MACN), Dto. Itapua, San Benito (Pastoreo) 29.10.1982; 1 ♂, 5 ♀ paratypes No. 8024 (MACN), Dto. Concepción, Colonia Sgto. José E. López, 13.10.1979; 2 ♀ paratypes No. 8025 (MACN), Dto. Canendiyú, near the mouth of Carapá River and Alto Paraná River, 2.11.1979; 1 ♂ immature No. 8022 (MACN), Dto. Amambay, Parque Nacional Cerro Corá, 24.10.1979; 1 ♀ No. 8026 (MACN) from R. Argentina, Misiones Prov., Puerto Libertad, November 1954, Schiapelli & Galiano coll.

Semiopyla triarmata n. sp.

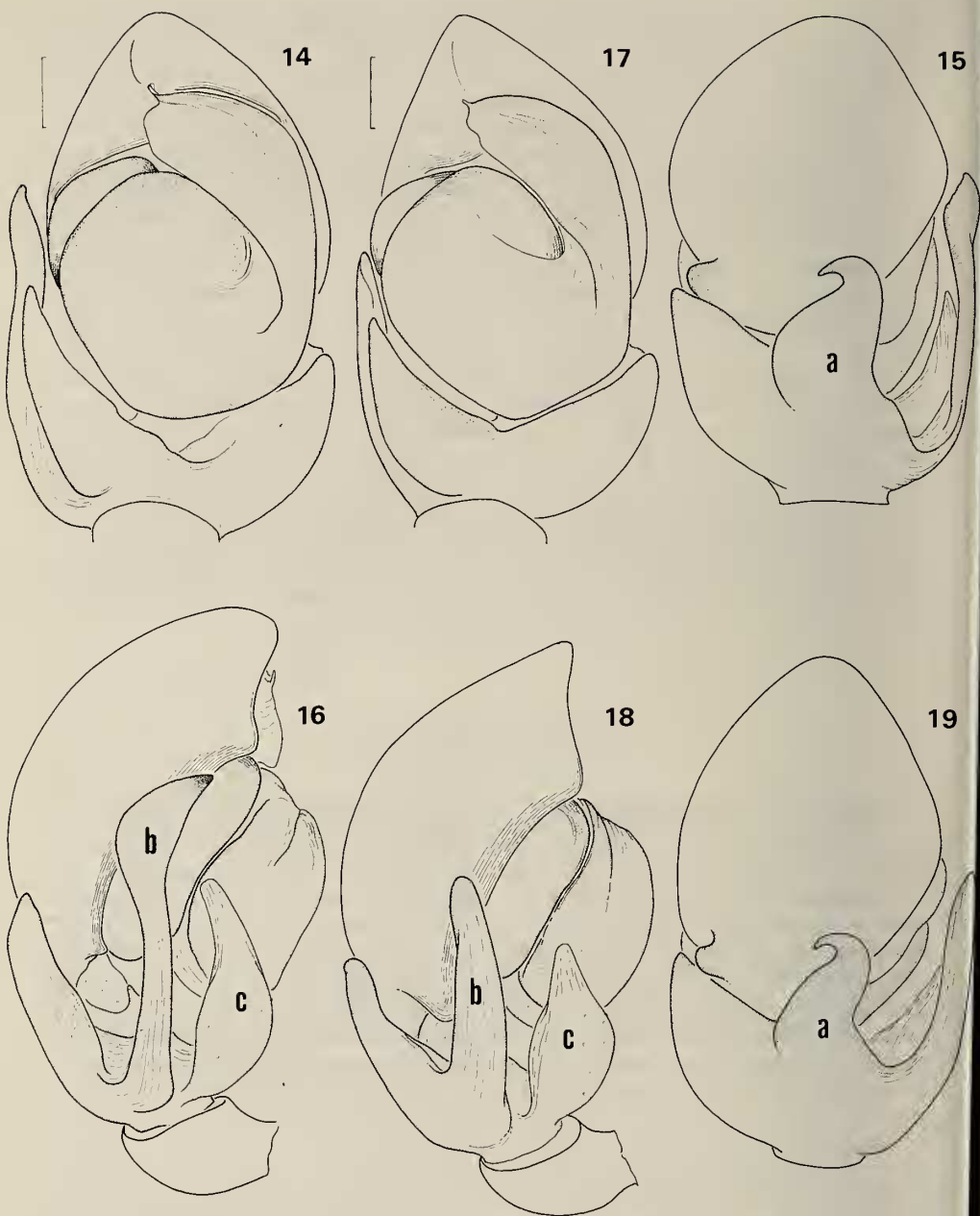
(Figs. 9, 12, 13, 17-19)

ETYMOLOGY: the name refers to the three palpal tibial apophysis.

DIAGNOSIS. *S. triarmata* can be distinguished from *S. viperina* by the shape of apophysis *c*, which is shorter, thicker at the basal half and not widened distally. Females of *S. triarmata* have the arms of the epigynal groove and the spermathecae shorter than those of *S. viperina*; the middle part of the ducts are obliquely oriented and shorter.

DESCRIPTION. MALE HOLOTYPE. Total length 3.00. Prosoma 1.43 long, 1.03 wide, 0.66 high. Clypeus 0.10 high, with few bristles. Ocular quadrangle 0.71 long, first row 1.01 wide, third row 1.06 wide. Eye interdistances: ALE-PME 0.20, PME-PLE 0.10. Diameter of AME 0.33. Anterior end of thoracic groove scarcely behind the PLE. Chelicerae: Short, parallel, vertical. Promargin with four teeth; without retromarginal tooth. Leg formula IV-I-III-II.

Legs	Femora	Patellae	Tibiae	Metatarsi	Tarsi	Totals
I	0.83	0.45	0.61	0.43	0.31	2.64
II	0.68	0.40	0.41	0.36	0.26	2.13
III	0.68	0.36	0.43	0.46	0.28	2.23
IV	0.95	0.40	0.68	0.73	0.36	3.13



FIGS. 14-19.

Male holotypes; palps (*a*, *b*, *c*, tibial apophysis); *S. viperina* n. sp.; 14: ventral view; 15: dorsal view; 16: retrolateral view. *S. triarmata* n. sp.; 17: ventral view; 18: retrolateral view; 19: dorsal view. Scale lines 100 μ .



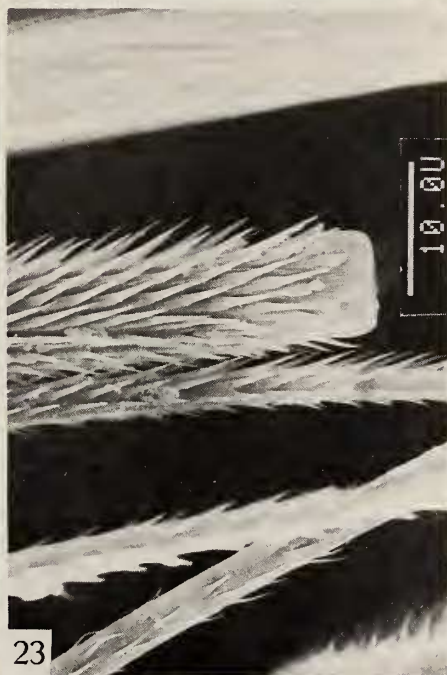
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22



23

FIGS. 20-23.

Semiopyla cataphracta; 20: palp, ventral view, specimen from Panama. *S. viperina* n. sp.;
21: palp, ventral view; 22: specialized setae of first tibia; 23: tip of the seta.

Leg spination: Femora I d 1-1-1, p 1; II d 1-1-1; III, IV d 1-1-1, p ap 1, r ap 1. Patella II p 1; III, IV p 1, r 1. Tibiae I v 2-2-2; II v 1r-1r-2, p 1-1; III v 1p-2, p 1-1, r 1-1; IV v 1p-2, p 1-1-1, r 1-1-1. Metatarsi I v 2-2; II v 2-2, p ap 1; III v 2-2, p 1-2, r 1-2; IV v 1p-2, p 1-1-2, r 1-1-2. Special setae on first legs similar in shape and location to those in *S. viperina*. Palps (Figs. 17-19): Tibial apophysis *b* and *c* a little shorter than in *S. viperina*. Colour in alcohol: Prosoma dark brown, a patch of light brown around the thoracic groove. Endites, labium and sternum light brown. Opistosoma dark brown, dorsum with two transverse yellowish narrow stripes on distal half, entirely covered by a shiny scutum. Sides and venter blackish brown, epigastric area sclerotized. First leg with femur and tibia brown, darkened laterally; patella yellowish; tarsus yellow. Legs II and III light brown, femora darkest. Leg IV, patella brown, tibia and metatarsus basally yellow, tarsus yellow. Palps dark brown, cymbium with dense yellowish hairs distally.

FEMALE PARATYPUS. Total length 3.33. Prosoma 1.50 long, 1.10 wide, 0.70 high. Clypeus 0.06 high. Ocular quadrangle 0.75 long, first row 1.07 wide; third row 1.06 wide. Eye interdistances: ALE-PME 0.20, PME-PLE 0.11. Diameter of AME 0.35. Chelicerae: Five teeth on promargin, the more medial smaller and a little displaced towards the fang groove. Leg formula: IV-I-III-II. Leg spination: Femora I-IV d 1-1-1. Tibiae I v 2-2-2; II v 1r-1r-2, p 1; III v 1p-1p, p 1, r 1-1; IV v 1p-2, p 1-1, r 1-1. Metatarsi I, II v 2-2; III v ap 2, p ap 2, r ap 2; IV v 1p-2, p 1-2, r 1-1-2. Epigynum: Similar to *S. viperina* but the arms of the groove shorter and a little divergent; middle part of the ducts obliquely oriented. (Figs. 12, 13). Colour in alcohol: Prosoma light brown, margins and cephalic area blackish. Opistosoma brown with a yellow longitudinal basal band with irregular borders, three or four pairs of spots on distal half. Venter yellowish. Legs light brown, femora blackish laterally. Palps orange brown.

MATERIAL EXAMINED: Male holotype No. 8027 (MACN) from R. Argentina, Jujuy Prov., Dto. Ledesma, Mesada de las Colmenas, 23.10.1983, G. Lingua coll.; 1 ♀ paratype No. 8028 (MACN), Salta Prov., San Pedro, 29.11.1951, M. Birabén coll.

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